CUVACD302A Produce computer-aided drawings

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Modification History

Version	Comments
CUVACD302A	This version first released with *CUV11 Visual Arts, Craft and Design Training Package version 1.0*

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to use a range of computer-aided design and drafting (CADD) program functions to produce drawings.
The focus of this unit is on the technical skills required to operate CADD, not on design skills which are covered in other units in CUV11 Visual Arts, Craft and Design Training Package.

Application of the Unit

People working in many industries apply the skills and knowledge outlined in this unit.
In the cultural industries, computer-aided drawing skills are required in many design disciplines, and in contexts such as stage and set design. In the visual arts, computer-aided drawings could be used to develop concepts for artworks or for mounting installations and exhibitions.
At this level, work is undertaken independently but within established parameters. Supervision or guidance is available as required.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
Elements describe the essential outcomes of a unit of competency.	*Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.*

Elements and Performance Criteria

1. Prepare for computer-aided drawing work	1.1 Clarify drawing requirements with reference to concept or project *information*
	1.2 Identify hardware, software, tools and equipment required for *computer-aided design* and drafting projects
	1.3 Set up hardware and software according to operating instructions and organisational procedures
	1.4 Identify and retrieve digitised information relevant to projects
2. Gather object parameters and/or measurements	2.1 Establish and record critical dimensions and data for required designs
	2.2 Identify requirements in relation to accuracy, tolerances and other critical information
3. Prepare plots or drawings	3.1 Access and use *CADD functions and features* according to operating instructions
	3.2 Access and use *peripheral equipment* required for projects
	3.3 Prepare and review preliminary drawings in consultation with relevant colleagues as required
4. Finalise drawings	4.1 Check designs against project objectives and specifications according to organisational procedures
	4.2 Identify and make required adjustments to designs based on review and consultation with relevant colleagues as required
	4.3 Store data files according to operating instructions and organisational procedures
	4.4 Submit final drawings within agreed time parameters

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Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- learning skills to improve own skills through feedback and review
- literacy skills to interpret and use digital information, including instructions required for the production of computer-aided drawings
- numeracy skills to interpret and correctly apply calculations and measurements required for the production of computer-aided drawings
- planning and organising skills to plan work tasks in a logical sequence
- problem-solving skills to identify and respond to the need for adjustments in drawings
- self-management skills to complete work within agreed timeframes
- technology skills to use a range of features of CADD software.

Required knowledge

- ways in which CADD is used within specific industry contexts
- basic principles of CADD
- typical features and functions of CADD programs, including drawing tools, view displays, edit functions, working with layers, plotting and printing
- intellectual property issues and legislation associated with the use of CADD
- OHS issues associated with the use of computers.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the ability to: • use the standard features and functions of a CADD program to produce drawings for a specific workplace purpose • apply knowledge of CADD capabilities and uses in a specific industry context.
Context of and specific resources for assessment	Assessment must ensure access to: • CADD equipment and software.
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • evaluation of drawings produced by the candidate • oral or written questioning to assess knowledge of CADD features and functions • direct observation of the candidate undertaking CADD work • review of portfolios of evidence • review of third-party reports from experienced practitioners. Assessment methods should closely reflect workplace demands and the needs of particular groups (e.g. people with disabilities, and people who may have literacy or numeracy difficulties, such as speakers of languages other than English, remote communities and those with interrupted schooling).
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Information may relate to:	• creative objectives • measurements/dimensions of objects or space • scope for making adjustments • statutory requirements • technical objectives • timelines.

Computer-aided design may be required for a wide range of work situations which may include:	• costume or fashion design
	• layouts:
	  • rooms
	  • sites
	  • stage
	• lighting plots
	• object or product design
	• set design
	• visual arts projects:
	  • artworks in any form
	  • community installations
	  • public art.

CADD functions and features must include:	• drawing tools to support methods for drawing:
	  • lines
	  • arcs
	  • polylines
	  • texts
	  • dimensions
	• edit functions
	• plotting and printing
	• view displays
	• working with layers.

CADD functions and features may include:	• three-dimensional (3-D) techniques:
	  • displaying 3-D views
	  • entering coordinates
	• how CADD works in an integrated environment
	• isometrics and perspectives

	• macros • use of attributes to make project reports.
Peripheral equipment may include:	• plotters • printers • scanners.

Unit Sector(s)

Visual communication – art, craft and design